

April 5, 2022

FOCUS UNIVERSAL

(NasdaqGM: FCUV)

Founded in 2012, Los Angeles-based Focus Universal has developed proprietary technologies designed to simplify the design and production process for the Internet of Things (IoT) industry. The company's products include the Universal Smart Instrumentation Platform, which provides a common hardware foundation for the electronic design of IoT applications, and the Ubiquitor, a handheld IoT sensor device. The company has also obtained patents for new technologies and services in areas such as Ultra Narrowband Power Line Communications, Ultra Narrowband Wireless Communications, and Device-on-a-Chip (DoC) applications.

COMPANY HIGHLIGHTS

- * Focus Universal: Connecting the Internet of Things
- * Focus Universal's technologies were created to simplify the design and production process for the Internet of Things (IoT) industry, the network created by billions of internet-compatible devices.
- * The growth of IoT has been limited by interoperability challenges among devices with different technical specifications and functional capabilities.
- * The company's Universal Smart Instrumentation Platform addresses these interoperability challenges and facilitates the sharing of up to 90% of common software and hardware among devices. It also helps product developers to lower costs, shorten design and development cycles, and reduce natural resource consumption.
- * The company is currently selling niche products to customers in the horticulture industry through Hydrofarm, the largest U.S. horticultural distributor, with a roughly 50% market share. It is also preparing to enter the smart home market, following COVID-19 related rollout delays.
- * Focus Universal recently raised more than \$11 million through an equity offering and uplisted its stock on the Nasdaq. We expect this listing to boost investor interest in the company and facilitate access to additional outside capital.

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PRICE CHART



KEY STATISTICS

Key Stock Statistics

Recent price (3/30/22)	\$13.99
Fair Value Estimate	\$16.00
52 week high/low	\$25.25-\$4.49
Shares outstanding (M)	43.3
Market cap (M)	\$606
Dividend	Nil
Yield	Nil

Sector Overview

Sector	Information Technology
Sector % of S&P 500	28.1%

Financials (\$M, as of 12/31/21)

Cash & Mkt Securities	8.7
Debt	0.6
Working Capital (\$M)	8.6
Current Ratio	16.1
Total Debt/Equity (%)	4.4%
Payout ratio	NM
Revenue (M) TTM	1.4
Net Income (M) TTM	NM
Net Margin	NM

Risk

Beta	-0.48
Inst. ownership	3%

Valuation

P/E forward EPS	NA
Price/Sales (TTM)	NA
Price/Book (TTM)	46.7

Top Holders

Vanguard Group
Geode Capital Management
Morgan Stanley

Management

Chairman	Mr. Edward Lee
CEO	Mr. Desheng Wang
CFO	Mr. Duncan Lee
Company website	https://focusuniversal.com

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* Based on our valuation analysis, we arrive at a fair value estimate for FCUV of \$16 per share.

INVESTMENT THESIS

Founded in 2012, Los Angeles-based Focus Universal has developed proprietary technologies designed to simplify the design and production process of the Internet of Things (IoT).

The company's focus on solving IoT "pain points" has resulted in three foundational patents and 13 provisional patents covering a broad range of technologies. Its key products are: — Universal Smart Instrumentation Platform (USIP), which provides a common hardware and software foundation for the electronic design and production of IoT applications.

— Ultra Narrowband Power Line Communication, which enables the transmission of data among IoT devices over an existing power grid.

— User Interface Machine Auto Generation Platform (UI-MAD), which provides a cross-platform middle layer between programming languages and designated application software.

— 5G++ (Ultra Narrowband Wireless Communication), which expands 5G coverage, reduces energy consumption, and provides substantial cost savings over existing 5G technologies.

— DoC (Device-on-a-Chip), which leverages the company's USIP technology in a single DoC chip able to carry out all device functions.

The company's technologies are designed to improve the functionality and efficiency of the Internet of Things (IoT), the network created by billions of internet-compatible devices. Gartner recently estimated that more than 20 billion IoT devices were in use globally at the end of 2020, and MarketsandMarkets expects the overall IoT market to reach \$561 billion by 2022. In our view, the market could double over the remainder of the decade.

While many devices share up to 90% in common foundational hardware and software, the growth of IoT has been limited by interoperability challenges among devices with different technical specifications and functional capabilities. IoT functionality may also be slowed by interference from radio signals and radiation.

The company's Universal Smart Instrumentation Platform (USIP) is designed to address these interoperability challenges and to facilitate the sharing of data among devices. It helps product developers to lower costs, shorten design and development cycles, and reduce natural resource consumption. USIP integrates cloud technology, wired and wireless communications, software programming, instrumentation, artificial intelligence, and sensor networks into a single platform that makes circuit design faster and cheaper than it is when end users build network components from scratch.

USIP uses a computer or mobile device as a display and control, and communicates with sensors, instruments, probes, or controllers manufactured by different vendors without requiring the user to understand their unique characteristics. The portable version of the platform, accessible through a universal handheld device called an Ubiquitor, uses a smartphone to coordinate the control of different devices. In our view, the Ubiquitor is well positioned to become the industry standard as the efficiency of IoT networks improves. We expect Focus Universal to ramp up production of these devices over the course of 2022, which should accelerate revenue growth over the long-term.

The company is currently selling niche products to customers in the horticulture industry through Hydrofarm, the largest U.S. horticultural distributor, with a roughly 50% market share. We expect the company to leverage its relationship with Hydrofarm to penetrate the horticulture market further, which has annual sales of more than \$10 billion. Using the company's fans, filtration, and light-meter devices, horticultural producers are able to monitor sensors and other instruments that regulate plant growing conditions, including temperature, humidity, light, pH, and CO₂. We note that next-gen devices and circuit layouts for approximately 1,000 sensor nodes and controllers have been sent to its manufacturer in China for production, but have been delayed due to the COVID-19 pandemic. We anticipate the production schedule to begin to normalize over the course of 2022. The company sees a second opportunity for the USIP in the global smart home market, which MarketsAndMarkets expects to grow from \$78 billion in 2020 to \$135 billion by 2025. Smart home automation enables the remote control of lighting, temperature, alarm systems, and household appliances. Current smart home products are typically able to control only a single dedicated function, while the USIP creates a control hub that can manage multiple functions at a lower overall cost.

In March 2019, Focus Universal acquired AVX, an IoT installation and management company that will provide IoT services to homeowners. Although the rollout of this service has been slowed due to the COVID-19 pandemic, we expect Focus and AVX to expand availability of this service across 2022. We expect the low cost of the products and service and AVX's experience with IoT installation to generate substantial consumer interest. Over the next several years, we also expect the company to expand into the medical/healthcare, commercial/industrial, and military verticals, among others.

Over the long term, we expect manufacturers to use the company's technology to reduce hardware and software devel-

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PEER COMPARISON

Company	Ticker	Recent Price (\$)	52-Week High (\$)	52-Week Low (\$)	Mkt. Cap (\$ML)	1-yr Price Change (%)	1-yr Rev Growth (%)	1 YR EPS Growth (%)	P/E Ratio	Beta	Yield (%)
FOCUS UNIVERSAL INC	NASDAQ: FCUV	13.99	25.25	4.49	606	180	-15	NA	NA	-0.48	NA
SEQUANS COMMUNICATIONS SA	NYSE: SQNS	2.90	6.84	2.87	135	-50	0	NA	NA	0.85	NA
CAMBIUM NETWORKS CORP	NASDAQ: CMBM	22.85	66.40	18.95	610	-48	21	87	17.4	0.34	NA
VIVINT SMART HOME INC	NYSE: VVNT	7.02	16.20	6.05	1465	-48	18	NA	NA	0.99	NA

opment costs for IoT devices. Thus, we believe that Focus has opportunities to license its technology, which would provide a new revenue stream while also allowing the company to maintain control over its intellectual property. As well, we expect the company to be active in M&A activity, similar to the AXV acquisition, as it could meaningfully accelerate its commercial timelines by acquiring marketing and sales capabilities faster than developing them in-house.

Focus Universal has also developed a proprietary ultra-narrowband technology that increases the speed and improves the reliability of data transmission over existing power cables. These cables have historically transmitted data at slow speeds, provided limited coverage, and been susceptible to electrical noise and other types of interference. The company believes that it has developed a solution with superior noise rejection that provides a scalable, cost-effective solution for connecting devices. Its technology converts wall sockets into access points, thus providing greater reliability and security than wireless networks, which can be more-easily accessed by unauthorized users or hampered by walls, floors, and other muting structures. We think that Focus Universal could launch this technology commercially in 2-3 years.

Focus Universal is also developing 5G++, an ultra-narrowband wireless technology that will help wireless providers overcome the current limitations of 5G. Despite its increased speed and reliability, 5G is limited by a narrow communication range, higher energy consumption than 4G, and infrastructure costs that are slowing its global rollout. Focus Universal's 5G++ technology is designed to expand coverage to an area 3- to 10-times larger than that provided by standard 5G, and thus to reduce the need for (and the cost of) new infrastructure. The company's ultra-narrowband technology will also lower energy consumption by up to 6,000x less than current 5G— an important issue as 5G base stations typically use at least twice as much power as 4G stations. This could provide significant cost savings for network operators and an attractive licensing opportunity for Focus Universal.

Similarly, in the software space, Focus Universal has developed a “user interface machine auto generation platform” (UIM-AD). The platform simplifies software development for IoT devices by providing a common middle layer between programming languages and application software. The middle layer includes 90% of the necessary coding, allowing software engineers to program an application with relatively few lines of additional code. The technology is also able to convert thousands of lines of code into a micro-code saved to a sensor module. When these modules are plugged into a USIP, the saved user-interface specification codes are sent to the platform and to a universal display, such as a computer or a smartphone.

The UIMAD platform resembles low-code or no-code programming in that it reduces the need for traditional hand coding and thus helps to accelerate application development. However, due to integration challenges, the absence of customization, and security risks, major software companies such as Microsoft, IBM, Oracle, SAP and Salesforce have not developed their own UIMAD platforms. As such, we believe that Focus Universal's UIMAD could attract licensing interest.

Addressing the limits of Moore's Law, Focus Universal has also developed “device-on-a-chip” technology (DoC) that combines integrated circuit components in a single integrated chip (IC). A DoC works as a single component but is capable of handling entire device functions. In contrast to integrated chips, which focus on hardware-hardware integration and limit integration to the component level, DoC includes both hardware and software, thus strengthening performance. DoC uses less power, increases reliability, and offers a smaller overall package with fewer required interconnections between components. As a result, we believe that DoC technology is better suited than traditional IC for IoT devices that are increasingly custom-designed and manufactured.

We are encouraged by Focus Universal's expanding IP portfolio, which features a patent on its Universal Smart Device, which was granted in 2018. In addition, the company has filed and received favorable feedback on its international utility patent application, which covers its PLC technology. Lastly, we note that in May 2021, the company filed 13 provisional patent applications with the U.S. Patent and Trade Office, encompassing a broad spectrum of its targeted technology areas.

RECENT DEVELOPMENTS

Focus Universal shares began trading on the Nasdaq on August 31, 2021 following an equity offering of 2 million shares at \$5 per share. Since the listing, the share price has more than doubled to approximately \$14.00 per share.

In 2021, Focus Universal reported revenue of \$1.4 million, down from \$1.7 million in 2020. The net loss was \$0.08 per share, compared to a net loss of \$0.06 per share in 2020. We attribute the lower revenue to delays in smart home installations from AVX due to the COVID-19 pandemic.

In January 2022, Focus Universal shares began trading on the Nasdaq Global Market (GM) Exchange, after trading on the Capital Market (CM) Exchange since its August 2021 uplist from the OTC.

In November 2021, Focus Universal announced the appointment of Irving Kau as vice president of finance and head of investor relations. Mr. Kau brings an established record of helping companies grow across multiple geographies, and has served as CFO of a publicly listed AgTech company for almost 10 years.

On August 31, 2021, Focus Universal announced the closing of its public offering of 2,000,000 shares. On September 2, 2021, the company announced the exercise of the overallotment option by its underwriters, resulting in the issuance of an additional 300,000 shares. Including the overallotment, it raised \$11.5 million in gross proceeds.

In December 2019, Focus Universal filed an international utility patent application to protect its proprietary Power Line Communication technology, which enables the transmission of data over an existing power grid.

In March 2019, Focus Universal acquired AVX Design and Integration, a provider of smart home solutions, including the integrated management of lighting, audiovisual, home theater, and home security systems.

EARNINGS & GROWTH ANALYSIS

We expect Focus Universal to post revenue of \$10 million in 2022 and \$75 million in 2023. This should consist of organic revenues from the sale of legacy digital, analog, and quantum light meters and filtration products through its U.S. distributor Hydrofarm, and from smart home installations following COVID-related delays. We expect Hydrofarm to be a key distributor of the company's new IoT products to horticultural industry customers. In our view, M&A activity and production of next-generation products for IoT could meaningfully complement and expand the company's revenue base over the coming years.

We anticipate gross margins of 24% in 2022 and 52% in 2023. Over the long-term, we expect gross margins to range from 50%-60% on B2B hardware sales and 70%-80% on B2C offerings. Further, we believe that software data-monitoring subscriptions could generate long-term margins of more than 80% due to lower fixed manufacturing costs.

We forecast net losses of \$0.15 per share in 2022 and \$0.04 per share in 2023. We think that FCUV could reach profitability by late 2023 as it builds commercial scale.

FINANCIAL STRENGTH & DIVIDEND

Our financial strength rating on Focus Universal is Medium-Low. The company raised \$11.5 million in gross proceeds from its August 2021 IPO and over-allotment exercise, and ended 2021 with \$8.7 million in cash, up from \$583,000 at the end of 2020. As of December 31, 2021, Focus had \$0.6 million in total debt, resulting in positive working capital of \$8.6 million and a current ratio of 16.1.

We expect Focus Universal to require additional capital to fund the production and wider assembly, marketing, and rollout of its power-line communications products and Ubiquitor device. However, we see potential for the company to penetrate new markets rapidly, given its competitive pricing profile. We note that Focus Universal intends to target small-device markets initially, and pursue higher end markets over time.

In 2021, net cash used in operations was \$2.2 million, compared to \$2.0 million in 2020. Net cash used in investing activities was \$23,000, compared to \$1,000 in 2020. Net cash inflows from financing activities were \$10.3 million, driven by proceeds from its August 2021 equity offering, compared with \$347,000 in 2020. In total, Focus Universal recorded \$8.1 million in net cash inflows in 2021, compared with net cash used of \$1.6 million in 2020.

Focus Universal does not pay a dividend, and we do not expect it to initiate one in the near term.

MANAGEMENT

Desheng Wang has been Focus Universal's CEO and a member of the board since 2014. Dr. Wang has over 20 years of experience in mobile technology, and has served as the president of Vitashower Corp. and Perfecular Inc.

Edward Lee is Focus Universal's chairman, and served as president between 2015 and 2019. Since 1996, Dr. Lee has also

served as CEO of AIDP, a supplier of dietary supplement ingredients. He is also the vice chairperson of the American Chinese CEO Association.

Of note, Mr. Wang and Dr. Lee own more than half of the company's shares (33% and 19%, respectively), and the management team and its directors own nearly 60% of its shares, in aggregate, as of December 31, 2021.

As of December 31, 2021, Focus Universal's board consisted of seven members, including a majority of independent directors. We note that independent directors chair the primary audit, compensation, and nominating/corporate governance committees.

RISKS

Risks for Focus Universal include intense competition (including competition from larger, better-funded companies), the potential for product or technological obsolescence, and customer acceptance of new and unproven products. The company also faces customer concentration risk, as one customer, Hydrofarm, has accounts for a majority of its commercial revenues to date.

In addition, we note that Focus Universal's products and the industries in which those products are used (including power-line grids) are subject to U.S. and foreign regulation, which could limit the market for the Ubiquitor device and for smart home installation.

Lastly, we see risk in Focus Universal's exposure to operations in China, particularly in its supply chain, amid trade and geopolitical tensions in the region. However, we note that the company plans to diversify its operations over the coming years.

COMPANY DESCRIPTION

Focus Universal Inc. is a provider of patented hardware and software design technologies for Internet of Things (IoT) and 5G. The company has developed four disruptive patented technologies to solve the major problems facing hardware design, hardware production, software design and network communication facing both industries today. These technologies combined have potential to reduce costs, product development timelines and energy usage, while increasing range, speed, efficiency and security.

VALUATION

Focus Universal participates in the mature Electronic Equipment, Instruments, and Components subsector of the Information Technology sector. We expect this subsector to see renewed growth in the coming years, driven by applications such as IoT. Historically, companies in this group have traded at an average forward enterprise value/revenue multiple of approximately 4. However, we believe that Focus Universal warrants a higher multiple given its strong growth prospects and the potentially disruptive nature of its technology. We also believe that the company could attract acquisition interest from a larger industry player.

As such, we apply an EV/revenue multiple of 6, above the group average, to our 2024 revenue estimate of \$200 million. Discounting the projected enterprise value back two periods at 25% per period and adjusting for the share count, we arrive at a fair value estimate for FCUV of \$16 per share.

Steve Silver,
Argus Analyst

INCOME STATEMENT

Growth Analysis (\$MIL)	2019	2020	2021	Q1 2022E	Q2 2022E	Q3 2022E	Q4 2022E	2022E	Q1 2023E	Q2 2023E	Q3 2023E	Q4 2023E	2023E
Revenue	1.5	1.7	1.4	0.6	1.4	2.5	5.5	10.0	7.5	13.0	20.0	34.5	75.0
Gross Profit	0.1	0.3	0.3					2.4					38.9
SG&A	2.7	2.7	3.1					6.7					32.4
R&D	0.3	0.3	0.2					2.0					8.0
Operating Income	-2.8	-2.7	-3.0					-6.3					-1.5
Interest Expense	-0.1	-0.2	-0.1					-0.4					-0.4
Pretax Income	-2.7	-2.5	-3.2					-6.7					-1.9
Tax Rate (%)	NA	NA	NA					NA					NA
Net income	-3.2	-2.5	-3.2					-6.7					-1.9
Diluted Shares	40.9	41.0	41.7					44.0					45.0
EPS	-0.08	-0.06	-0.08	-0.02	-0.03	-0.04	-0.06	-0.15	-0.06	-0.03	-0.01	0.06	-0.04
Dividend	NA	NA	NA					NA					NA
Growth Rates (%)													
Revenue	NA	13	-18					614					650
Operating Income	NA	NA	NA					NA					NA
Net Income	NA	NA	NA					NA					NA
EPS	NA	NA	NA					NA					NA
Valuation Analysis													
Price (\$): High	12.25	5.00	25.25					NA					NA
Price (\$):Low	5.00	1.50	3.56					NA					NA
PE: High	NA	NA	NA					NA					NA
PE: Low	NA	NA	NA					NA					NA
PS: High	NA	NA	NA					NA					NA
PS: Low	NA	NA	NA					NA					NA
Yield: High	NA	NA	NA					NA					NA
Yield: Low	NA	NA	NA					NA					NA
Financial & Risk Analysis (\$MIL)													
Cash	2.2	0.6	8.7					NA					NA
Working Capital	2.0	0.5	8.6					NA					NA
Current Ratio	5.6	1.9	16.1					NA					NA
LTDebt/Equity (%)	1	5	3					NA					NA
Total Debt/Equity (%)	3	10	4					NA					NA
Ratio Analysis													
Gross Profit Margin	7	18	21					24					52
Operating Margin	NA	NA	NA					NA					NA
Net Margin	NA	NA	NA					NA					NA
Return on Assets (%)	NA	NA	NA					NA					NA
Return on Equity (%)	NA	NA	NA					NA					NA
Op Inc/Int Exp	NA	NA	NA					NA					NA
Div Payout	NA	NA	NA					NA					NA

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